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ABSTRACT

Holland's occupational classification was used to analyze the work histories of a national representative sample of young men and women age 14-24. This study extended previous tests of the classification in three ways: (1) It was applied for the first time to a national, representative sample of women, (2) For the sample of men, 3-year longitudinal data of work histories rather than retrospective records were used, and (3) Analyses of occupational change and stability were performed by assigning scores to different occupational categories according to their psychological relatedness. The analyses supported the usefulness of the occupational classification for organizing the work histories of both young women and young men. When applied to the data, the classification reflected the lawful and regular patterns of job changes for both sexes. Efficient predictions were possible for forecasting the category of later jobs based on knowledge of a person's earlier job. There was significant agreement between the categories of a person's current occupation and vocational aspiration. (Author/BH)

Center for Social Organization of Schools

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APPLYING AN OCCUPATIONAL CLASSIFICATION TO A NATIONAL REPRESENTATIVE SAMPLE OF WORK HISTORIES OF YOUNG MEN AND WOMEN

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INTRODUCTORY STATEMENT

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through five programs to achieve its objectives. The Academic Games program has developed simulation games for use in the classroom. It is evaluating the effects of games on student learning and studying how games can improve interpersonal relations in the schools. The Social Accounts program is examining how a student's education affects his actual occupational attainment, and how education results in different vocational outcomes for blacks and whites. The Talents and Competencies program is studying the effects of educational experience on a wide range of human talents, competencies, and personal dispositions in order to formulate -- and research -- important educational goals other than traditional academic achievement. The School Organization program is currently concerned with the effects of student participation in social and educational decision-making, the structure of competition and cooperation, formal reward systems, effects of school quality, and the development of information systems for secondary schools. The Careers and Curricula program bases its work upon a theory of career development. It has developed a self-administered vocational guidance device to promote vocational development and to foster satisfying curricular decisions for high school, college, and adult populations.

This report, prepared by the Careers and Curricula program, tests the usefulness of the Holland occupational classification and some hypotheses of his theory of vocational behavior by applying the classification to the work histories of a national representative sample of young men and women aged 14 to 24.

Abstract

Holland's occupational classification was used to analyze the work histories of a national, representative sample of young men and women age 14-24. This study extended previous tests of the classification in three ways: 1) it was applied for the first time to a national, representative sample of women; 2) for the sample of men, three-year longitudinal data of work histories rather than retrospective records were used; and 3) analyses of occupational change and stability were performed by assigning scores to different occupational categories according to their psychological relatedness.

Codes were assigned to occupations according to Holland's classification system and hypotheses formulated from the theory of vocational behavior. Hypothesestested were concerned with the psychological orderliness of occupational changes, the relationship between the orderliness of occupational experiences and aspirations, the relationship between consistent occupational codes and the stability of work histories, and the similarities of work histories among members of the same family.

The analyses supported the usefulness of the occupational classification for organizing the work histories of both young women and young men. When applied to the data, the classification reflected the lawful and regular patterns of job changes for both sexes. Efficient predictions were possible for forecasting the category of later jobs based on knowledge of a person's earlier job. There was significant agreement between the categories of a person's current occupation and vocational aspiration. The consistency of occupational code was found to be related to job

stability for whites but not for blacks. General Educational Development (GED) approximated the Duncan SES Index and the NORC Prestige Scale. The categorization of family members based on occupational codes provided some support for the hypothesis that personality types are attracted by similar types and types seem to produce similar types.

Acknowledgment

We are indebted to the following people for their help in securing the data for this project and for their skillful consultation about the inevitable problems in such massive data collections. They include: Herbert S. Parnes, John R. Shea, and Andrew I. Kohen, Center for Human Resource Research, Ohio State University; and Marie G. Argana and Robert W. Mangold, Longitudinal Surveys Branch, Bureau of the Census.

Introduction

This report is a further test of the usefulness of an occupational classification for ordering work histories. Earlier studies have shown that Holland's occupational classification organizes the occupational aspirations of high school and college students so that such aspirations have moderate to substantial predictive validity (Bartlett, 1970; Holland and Whitney, 1968; Lucy, 1971). Most recently, Parsons (1971) has shown that the classification accounts for sequences of occupations of men aged 45-59. Further, Holland, Sørensen, Clark, Nafziger, and Blum (1971) have shown that the classification orders the work histories of men from age 14-39 which were obtained retrospectively from interviews with a sample aged 30-39. The studies indicate that the classification organizes job sequences so that a man's career appears lawful rather than unpredictable. Because these studies used representative national samples, the results are especially valuable.

The present study extends these tests of the classification in three ways:

1. For the first time, the classification is applied to a national representative sample of <u>women</u>, aged 14-24.

2. The classification is applied to a national representative sample of men, aged 14 to 24, using three-year longitudinal data of work histories rather than retrospective records used in past analyses for this age group.

3. For the first time, the analysis of occupational change and stability is performed by assigning scores to different occupational categories according to their psychological relatedness to one another.

The occupational classification used in this study has been proposed, tested, and revised by Holland and his colleagues (Holland, 1959, 1966a, 1966b; Holland, Whitney, Cole, and Richards, 1969; Holland, Viernstein, Kuo, Karweit, and Blum, 1970; Viernstein, 1972). The classification contains six main categories -- Realistic, Investigative, Artistic, Social, Enterprising, and Conventional -- and 68 subcategories within the main categories, such as Realistic-Investigative-Enterprising, Realistic-Investigative-Social, etc. The classification comes from a theory of personality types and model environments (Holland, 1966a), and all occupational categories were derived from a single set of coordinating definitions -- six scale scores from the Vocational Preference Inventory (Holland, 1965). The development of the classification has been described earlier (Holland et al, 1970) and has been extended to all occupations in the Dictionary of Occupational Titles (Viernstein, 1972).

A hexagonal ordering of the six types based upon intercorrelations of the VPI scales was proposed by Holland et al (1969). The configuration (Figure 1) was supported in studies using configural analysis by Cole and Hanson (1971) and Edwards and Whitney (1972). On the hexagon, the adjacent types are the most closely related types, and the nonadjacent and nonopposite types are the next most closely related types, and the opposite categories on the diagonal are the least related types. For example, the degrees of relatedness to the Conventional type are: (1) the Realistic and Enterprising types are most highly related to Conventional, (2) the Investigative and Social types are moderately related to Conventional, and (3) the Artistic type is the least related to Conventional.

Figure 1

Method

National representative work histories were obtained for samples of young men and women aged 14 to 24 by the Bureau of the Census for The Center for Human Resource Research at the Ohio State University under the sponsorship of the Manpower Administration of the U.S. Department of Labor as part of the National Longitudinal Survey. The male sample, covering ages 14 to 24 in 1966, was interviewed in 1966, 1967 and 1968. The occupations held by these men were identified at each of the three interview points. In addition, the 1965 occupation was identified retrospectively during the 1966 interview, and the occupational aspirations for the future were obtained at the time of the 1968 interview.

The female sample was interviewed only in 1968. Data were obtained on the present occupation, retrospective information on the 1967 occupation, and job aspiration for the future.[1] The multi-stage probability sampling method, the interview schedules, and the voluminous findings about the occupational and economic status of these young mer and women are summarized in several documents (Parnes, Miljus and Spitz, 1969; Zeller, Shea, Kohen, and Meyer, 1970; Kohen and Parnes, 1971; Shea, et al, 1971). Separate samples of blacks and whites were obtained and the blacks were over-sampled to obtain more reliable statistics. In the present study,

[1] For the male sample future job aspiration was determined for age 30, and for the female sample, age 35. The older age for women was used to allow the respondents to project their aspiration to a point in time where household obligations would not interfere with their work.

we have continued to use these separate samples rather than assembling national samples of men and women composed of blacks and whites.

The occupational classification in Holland et al (1970) was used to assign Holland codes (three-letter codes) to the census codes (three-digit codes) for the jobs in each person's work history. Using these codes, hypotheses were tested from the Holland theory of vocational behavior concerning: 1) the psychological orderliness of occupational changes; 2) the orderliness of occupational experiences and aspirations; 3) the relationship between consistent codes and stable work histories; and 4) the similarity of occupational histories among members of the same family.

The efficiency of the Holland classification scheme for predicting sequences of occupations over time is measured and tested using the statistic kappa (Cohen, 1960 and 1968). Kappa is a measure of the proportion of observed agreement of Holland codes of two successive jobs that is not attributable merely to agreement that would occur by chance. That is, kappa is the proportion of agreement after agreement due to chance has been eliminated.

Two forms of the kappa were applied. The weighted kappa, k_w, allows one to assign differential ratio "utilities" to interclass moves (Cohen, 1968). Such utilities can be derived from the psychological relatedness of the Holland types. This study uses the relative proximity of the Holland codes on the hexagon to determine utilities, the highest weights being applied to the closest categories. Thus, an individual who was an R at the first time period would receive a weight of 3 if he was an R at the following time period, a weight of 2 if he moves to the C or I category, a weight of 1 for a move to the A or E category, and zero weight for a move into the S category. In a similar manner, the following table of weights can be devised.

Holland Code at Time 1	Holland Code at Time 2					
	R	I	A	S	E	C
R	3	2	1	0	1	2
I	2	3	2	1	0	1
A	1	2	3	2	1	0
S	0	1	2	3	2	1
E	1	0	1	2	3	2
C	2	1	0	1	2	3

Although the rank order of the weights in the table is adequately established, the ratio values are open to revision. These weights allow all cells in the transition tables to be considered when the degree of agreement is measured. Further, the relative contribution from each cell reflects the relatedness between the classes within which the move occurs.

The statistic k_w is applied to 6 x 6 tables of transitions among one-letter Holland codes. For tables of two-and three-letter codes in which the relative utilities of interclass moves are tenuous, the unweighted kappa, k, is used. The index k is a special case of k_w in which all off-diagonal moves are given equal weight. Both k and k_w may be interpreted as the ratio of observed agreement not attributable to chance to the total possible amount of agreement not attributable to chance. The difference between k and k_w is that the latter provides differential weights to interclass moves.

The upper limit of k_w (and therefore of k) is 1, which occurs only if there is perfect agreement of the Holland code for all subjects at the two time periods being observed. If the observed agreement is equal to

the agreement expected by chance, k_w equals 0. In general, k_w bears an inverse relationship to expected agreement for a given level of observed agreement. Also, the standard error of k_w, when the population k_w is zero, increases as proportion of agreement attributable to chance increases. Thus, k_w's that appear large may not be significantly greater than zero because of a large expected proportion of agreement. As with many statistics, it is difficult to specify a value of k_w which may be considered substantial. Because it eliminates all expected agreement as if it were actually due to chance, k_w appears to be a conservative index of agreement. The relationship of k to k_w, their sampling characteristics, and their relationship to other agreement statistics are given in Cohen (1960 and 1968).

Results

The following analyses were performed by organizing and reorganizing work histories or occupations into 6 x 6 tables according to Holland's classification and then testing selected hypotheses from his theory of vocational behavior (Holland, 1966a). These analyses have been organized according to work histories, consistency of codes, occupational aspirations, and family relationships.

Work Histories

The purpose of these analyses was to show that the classification organizes work histories into regular patterns. If the classification performs this task well, people who start in a particular occupational category will remain either in the same category or move to a closely related category. When the data for work histories is arranged in 6 x 6

tables, the large frequencies occur on the diagonal (RR, II, AA, etc.) revealing that people tend to keep choosing the same kinds of jobs. The weighted kappa statistic is a more sophisticated technique for assessing this pattern of job switching, that is, the weighted kappa tests both for the presence of a large diagonal distribution and for large distributions near the diagonal.

Depending upon the total N and the distribution of occupations, jobs held in 1965, 1966, 1967, 1968, and job aspirations were categorized to form either 6 x 6 tables (using one-letter codes only) or 50 x 50 tables (using most of the three-letter subcategories). Tables 1-3 show the predictive validity of the classification for the time intervals of 1965-66, 1965-67, and 1965-68 for all available data for white men. Tables 4-6 show the same information for black men. A man's job for 1965 is based on his retrospective report in 1966. Jobs for 1966, 1967, and 1968 were ascertained by interviews conducted during each of those years. Tables 1-6

Tables 1-6

show that the main categories of the classification have substantial predictive validity for periods of one to three years. All k_w's are significant at the .001 level for both whites and blacks.

Since data over the transition periods 1965-1966, 1965-1967, and 1965-1968 were available on only a small percentage of respondents, no analyses were done using two- and three-letter codes. Data for 1966, 1967, and 1968 were more complete, thus allowing analysis for two- and three-letter codes as well as one-letter codes.

The tables resulting from this more detailed organization of a man's work history are shown in the Appendix. The predictive efficiency of these large 50 x 50 tables is summarized in table 7 along with the predictive efficiencies of two-letter and one-letter occupational codes. The reduced tables for one- and two-letter codes are not shown in detail here, but can be obtained by combining appropriate categories in the 50 x 50 tables. Table 7 indicates that two- and three-letter occupational

Table 7

codes for a given job are predictive of the code of a man's job one to three years later. Without exception, the results cannot be attributed to chance (as indicated by the significant kappas), or to simply remaining in the same occupation, since the percentage of observed hits is always considerably larger than the percentage that remains in the same occupation. Total observed frequencies greatly exceed the expected frequencies in every instance. All k and k_w values are significant at the .001 level, and most of the values are substantial.

Although the percentages of observed hits are generally somewhat higher for blacks than for whites (Table 7, columns 3, 6, 9), the kappas are higher for whites than for blacks (Table 7, columns 5, 8, 11). For three-letter Holland codes, k (unweighted) ranges from .285 to .418 for whites compared with a range of .188 to .379 for blacks over the three transition periods. Using two-letter Holland codes, k ranges from .311 to .432 for whites and from .204 to .391 for blacks. The k_w's for the one-letter codes

of occupations range from .371 to .717 for whites and from .267 to .690 for blacks for the observed transition periods. The values are all highly significant and substantial.

The results for women are given in tables 8-9. Because women were interviewed only once, the data in these tables are retrospective in terms of 1967 occupations. At the same time, the efficiency of the classification in ordering these brief segments of a women's work life is substantial. Again, all total obtained frequencies are much greater

Tables 8-9

than chance expectancy or the rate of simply remaining in the same occupation. For white women $k_w = .831$ ($p < .001$) which is only slightly above the k_w of .799 ($p < .001$) for black women.

The sex and racial differences in tables 1-9 are small. The job changes or job stability of men and women are similar for the same periods of time (1967 to 1968, and 1968 to aspiration) when white men and women and black men and women are compared. The differences between races are greater than the differences within races -- although these differences are not large.

The most striking and consistent differences are between black and white men. In general, black men remain in the same major category more frequently than white men (see table 7). However, a high percentage of blacks begin and remain in Realistic jobs (technical, skilled, and laboring occupations) over all transition periods. As a result of the

distribution among the categories, the expected percentages of hits for blacks greatly exceed those for whites. This is reflected in somewhat higher values of k and k_w for white men as opposed to black men. The results indicate that the classification works somewhat better for whites. It also appears that in many cases, the best strategy for predicting the future occupational categories of blacks is to predict the Realistic category regardless of the category in which they started.

Consistency of Codes

Earlier theorizing has suggested that people with consistent occupational codes are more likely to have stable work histories (Holland, 1966a, pp. 43-44). A test of this hypothesis using a representative sample of men yielded very positive results for men aged 30-39 (Holland et al., 1971). Men with "consistent" codes are assumed to combine vocational interests, values and competencies that are psychologically consistent or consonant. For instance, Realistic and Investigative are considered "consistent," because both types have an interest in things rather than people and both lack interpersonal competency. In contrast, Realistic and Social are considered "inconsistent," because they represent divergent interests and competencies -- things versus people, and mechanical versus social competencies. Using Figure 1, the consistency of two classes may be determined by their relative position on the hexagon. Those closest are most consistent and those furthest apart are least consistent. In this study adjacent classes are called "consistent" and all others "inconsistent."

For this analysis, the tables in the appendix for men only were reorganized so that the predictability of consistent and inconsistent

codes could be compared. Table 10 summarizes the results. For white

Table 10

men, the results support the hypothesis -- consistency is related to stability. Proportions within two of three time periods differ significantly in the expected direction. For black men, the results do not support the hypothesis. The one significant difference for blacks was opposite the direction predicted. No results for women are shown since insufficient data were available for such an analysis. At best, these results give only weak support to the hypothesis, although the findings for white men are congruent with those for the earlier study (Holland et al, 1971).

Occupational Aspirations

To test the hypothesis that part-time and full-time jobs held during developmental years are predictive of later occupations, analyses were conducted comparing respondents' Holland codes in 1968 and Holland codes of the jobs to which they aspired. In all cases the agreement between respondents' current occupations and vocational aspirations is highly significant. For both men and women, the degree of agreement indicated by k_w values is significantly higher for whites than for blacks ($z = 3.04$, $p < .001$ for men, $z = 3.89$, $p < .001$ for women). It appears that whites, in general, are more able to successfully pursue their vocational interests even during the developmental period.

The most interesting differences seem to occur in the distributions of the groups among Holland types on vocational interests. For men, the distributions of vocational interests are dependent upon race (x^2 = 128.01, df = 5, $p < .001$). Though most men of both races aspire to R jobs, a higher percentage of whites than blacks wish to enter I and E occupations, whereas black men are more interested in S occupations. The differences between black women and white women are also significant but less pronounced (x^2 = 45.12, df = 5, $p < .001$). The modal aspirational category for both races is the S class, followed closely by C. The data from which these statistics were computed are shown in Tables 11-16.

Tables 11-16

Family Relationships

Six-by-six tables were prepared to test the hypotheses that children resemble their parents in personal characteristics, and that people marry others who have similar personal characteristics (Holland, 1966a). The analyses were done on those cases where the respondent no longer lived with the parents. The following sections summarize the "outcomes" of the following relationships: father-son, mother-son, father/mother-son, father-daughter, mother-daughter, father/mother-daughter, and father-mother. In each analysis, the 1968 occupation was used as the criterion.

Father-Son. The data for the father-son relationships are given in Tables 17 and 18. For whites, 51.2% (k_w = .146, $p < .001$) of the father-son pairs belonged to the same major (one-letter codes) occupational

category compared with 78.5% (k_w = .168 n.s.) for blacks. The small magnitude of the k_w's indicates a weak relationship. For both races, fathers and sons classified as R's were also subclassified. For whites

Tables 17-18

and blacks, the two-letter analysis revealed that 53.0% and 40.3% of the white and black father-son pairs, respectively, belonged to the same subgroup. For three-letter groups, the same analyses yielded percentages of 30.8% and 26.9% for white and black father-son pairs.

Mother-Son. The occupational codes of mothers and sons are less congruent than the codes of father and son. Tables 19 and 20 show these data. As before, the agreement for the one-letter code is significant for whites but not for blacks (47.8%, k_w = .082; $p < .05$ for whites; and 32.9%, k_w = .129, n.s., for blacks). When the R types only were reclassified as

Tables 19-20

two-letter subtypes, 30.4% and 28.6% of the mother-son pairs fall in the same subcategory. When these analyses were preformed for three-letter codes, these percentages become 15.2 and 12.4.

Father/Mother-Son. These analyses test the hypothesis that a son's occupational code will resemble the codes of his parents -- especially if his parents have identical one-letter codes. The analyses were conducted using the 1968 occupational codes of men who were not living with their

parents and for whom the occupations of both parents were known. The data for the following tests are given in Tables 21-26.

Tables 21-26

When the parents' codes are the same (RR, II, AA, etc.), 62.0% of the whites and 80.0% of the blacks have the codes of the parents. While k_w for whites (.208) is significant at the .05 level, k_w for blacks (.296) is not significant. Thus, the large amount of agreement that occurs for blacks is attributable to chance. This result can be explained by the observation that nearly all blacks in Table 24 are in the R category, causing a high expected hit rate.

When the parents' codes are not the same, both the percentage of agreement and the k_w index for father-son drop to 42.1% and .130 ($p < .05$) for whites, and 40.9% and -.118 (n.s.) for blacks. In addition, the small percentage of mother-son agreements that occur when the parents' codes differ are not beyond that expected by chance (k_w = -.006 for whites and k_w = -.019 for blacks).

Father-Daughter. The data for the father-daughter relationships are given in tables 27-28. For whites, 26.6% (k_w = .099; $p < .01$) of the father-daughter pairs belonged to the same major occupational category compared with 48.2% (k_w = .044; n.s.) for blacks.

Tables 27-28

Mother-Daughter. The occupational codes of mothers and daughters are more congruent than the codes for fathers and daughters. Tables 29 and 30 indicate that the percentages of agreement are 37.2 and 53.5 for white and black women. Both k_w's are significant ($p < .01$ and $p < .05$) although they are small (k_w = .176 and .181, for blacks and whites, respectively).

Tables 29-30

Father/Mother-Daughter. When father and mother have the same occupational code, the percentage of agreement between parental and daughter codes reaches 41.5 and 51.0 for white and black families (Tables 31-32). The k_w's indicate that the percentage for whites is statistically significant (k_w = .155; $p < .05$) but the percentage for blacks is not (k_w = .020; n.s.).

Tables 31-32

When mother and father have different occupational codes, the agreement between either parent and the daughter is not significant for either blacks or whites. (These tables have been omitted).

Father-Mother. The following analyses test the hypothesis that types are attracted to types, or types marry the same type. Tables 33-36 show the percentages of agreement between parents for the male and female samples in this study and for blacks and whites. In the white

male sample, 43.2% of the parents share the same occupational code (k_w = .197; $p < .001$). In the black male sample, the percentage of agreement is relatively large -- 71.8 (k_w = .247), but this result is not significant because of the large expected frequency in the R category.

Tables 33-34

The results for the white female sample indicate that 41.0% of the parents share the same occupational codes (k_w = .128; $p < .01$). The results for black parents were not significant. Again the large expected percentage of R's vitiates the results.

Tables 35-36

Occupational Level. The purpose of the following simple correlations was to determine the relationship between the General Educational Development Index (GED), taken from the Dictionary of Occupational Titles (1965), and Duncan's index of social status. The GED is a five-level classification index specifying the level of educational development required for entry into a given occupation. It is used in Holland's classification to arrange each subcategory according to occupational level.

The occupations for the male sample (1968) were given GED and Duncan Index Codes. The Pearson correlation for the entire sample (N = 4035) was .817. A correlation for the men between ages 22 and 26 was also

computed: r = .819 (N = 1400). The results indicate that the simple GED index is, as expected, a useful measure of the SES index of an occupation.

Discussion

These tests of the classification and its theory have numerous theoretical implications. First, and perhaps most important, the classification organizes the jobs held by young women as well as it organizes those held by men. For both, work histories form lawful or regular patterns when the classification is applied to the data. Second, the application of the classification yields efficient predictions for national representative samples of men aged 14-24 (this study), 30-39 (Holland et al, 1971), and 45-59 (Parsons, 1971). In short, the category of a person's earlier jobs forecasts the category of his later jobs. Third, the consistency hypothesis receives support from the white male but not the black male sample. These findings are reinforced by earlier results (Holland et al, 1971). Fourth, there is significant agreement between the categories of a person's current occupation and vocational aspiration. Fifth, the GED levels, used to arrange subcategories according to level of talent required, approximate the Duncan SES Index, and (by implication) the NORC prestige scales. And sixth, the categorization of families according to types provides some support for the hypotheses that types produce types and that types are attracted to types.

The generally positive outcomes obtained with national representative samples needs to be supplemented now by the use of unrepresentative samples in which more analytical tests are possible. Specifically, in large unrepresentative samples, all permutations or selected permutations

of the codes can be systematically examined for all hypotheses about subcategory membership. Representative samples would have to be of enormous size to perform the same analyses.

The practical implications seem clear. Users of the classification have additional evidence that the classification is applicable and valid for a broad range of occupations. At the same time, more evidence is needed about individual occupations so that their classification can become more precise.

The classification is also a tool for studying occupational mobility according to the kinds of interests, values, and special competencies that different kinds of jobs require. The use of the classification, in conjunction with prestige or occupational level measures, may be helpful in clarifying some problems of mobility. For example, mobility studies should be concerned with a person's opportunity to maximize his talents and interests as well as his opportunity to reach higher levels of income. From this perspective, poor people suffer from both the effects of low income and the effects of a narrow range of job opportunities. If job opportunities are limited to only a few kinds, then only a few kinds of talent can find expression, and the range of possible gratifications from work will also be limited.

Finally, the classification can be used in vocational education, vocational guidance, personnel work, and in research as a tool to organize occupational data, to develop curricular clusters, to organize career libraries, to interpret work histories, and to facilitate the guidance, selection, or placement of students or employees. Because the classification is based upon a theory which has some positive

empirical support, any occupational data which can be reorganized by the classification can be interpreted with the aid of the theory.

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Figure 1

A Hexagonal Model for Interpretating Inter- and Intra-Class Relationships

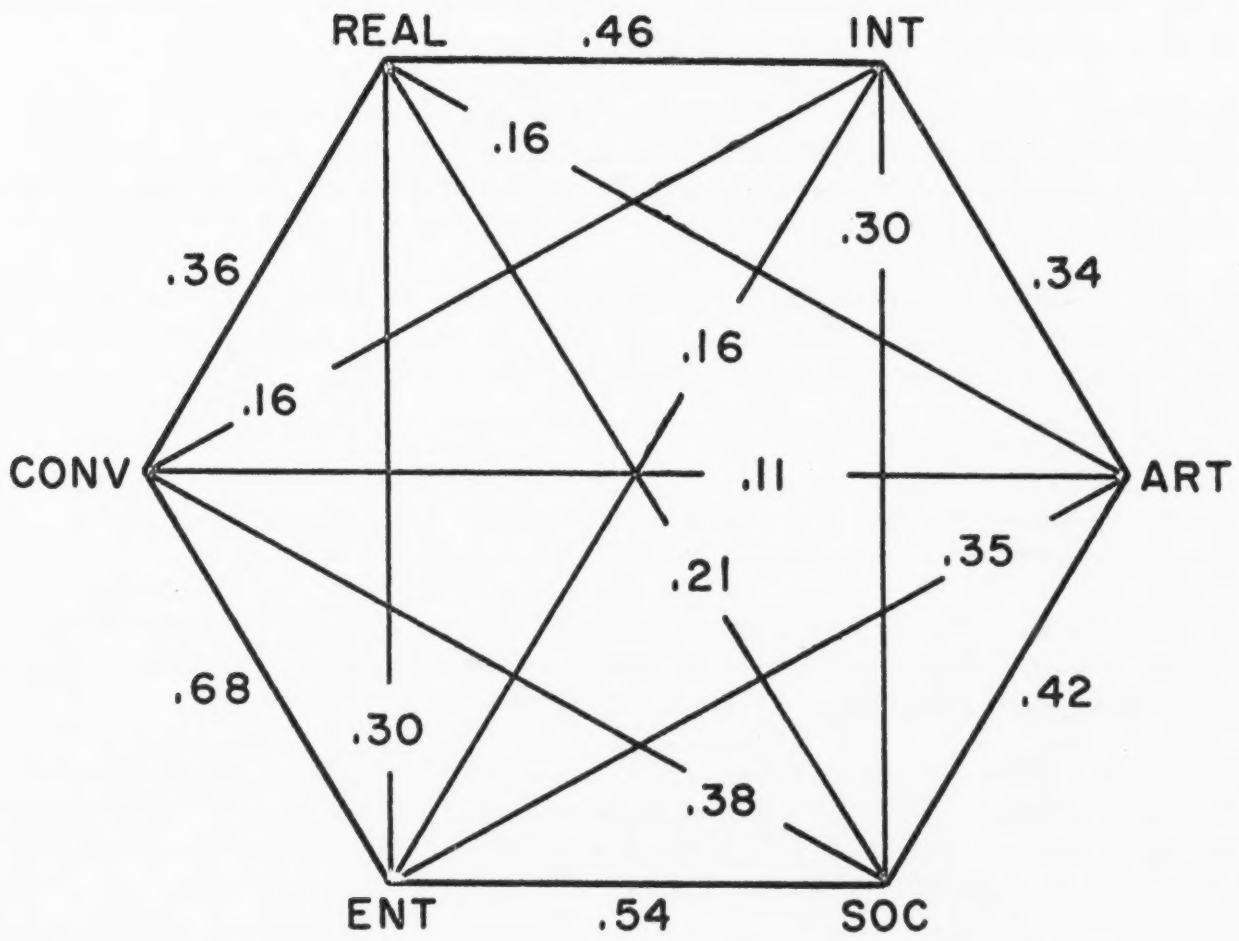

TABLE 1

Relation of Holland One-Letter Occupational Codes
for White Men in 1965 and 1966

Code for 1965 Occupations	Code for 1966 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	1076	16	12	10	39	19	3	1172
Investigative	5	50	1	1	1	0	0	58
Artistic	2	0	27	2	0	2	0	33
Social	8	3	0	57	1	1	0	70
Enterprising	56	1	0	7	137	9	1	210
Conventional	21	2	0	2	7	59	0	91
Other[a]	1264	60	22	73	151	95		
Total	1168	72	40	79	185	90		1634

Note - Hits = .86; K_w = .717, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 2

Relation of Holland One-Letter Occupational Codes
for White Men in 1965 and 1967

Code for 1965 Occupations	Code for 1967 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	886	24	8	16	67	39	135	1040
Investigative	10	35	2	1	3	5	2	56
Artistic	3	0	19	2	5	2	2	31
Social	19	3	0	37	4	1	6	64
Enterprising	78	5	0	5	85	13	25	186
Conventional	29	0	2	4	16	31	9	82
Other[a]	1239	68	23	98	155	131		
Total	1025	67	31	65	180	91		1459

Note - Hits = .75; K_w = .490, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 3

Relation of Holland One-Letter Occupational Codes
for White Men in 1965 and 1968

Code for 1965 Occupations	Code for 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	801	29	6	17	84	38	200	975
Investigative	15	27	0	3	6	4	3	55
Artistic	5	2	13	3	2	2	6	27
Social	23	3	0	30	5	2	7	63
Enterprising	79	9	3	3	66	16	35	176
Conventional	23	4	0	4	14	28	18	73
Other[a]	1100	75	34	92	155	118		
Total	946	74	22	60	177	90		1369

Note - Hits = .70; K_w = .394, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 4

Relation of Holland One-Letter Occupational Codes
for Black Men in 1965 and 1966

Code for 1965 Occupations	Code for 1966 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	491	0	1	4	4	9	4	509
Investigative	1	4	0	0	0	0	0	5
Artistic	0	0	4	0	0	0	0	4
Social	6	0	0	12	0	1	0	19
Enterprising	6	0	0	1	11	1	0	19
Conventional	5	0	0	0	1	15	0	21
Other[a]	553	1	2	27	27	32		
Total	509	4	5	17	16	26		577

Note - Hits = .93; K_w = .690, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 5

Relation of Holland One-Letter Occupational Codes
for Black Men in 1965 and 1967

Code for 1965 Occupations	Code for 1967 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	424	2	1	8	8	14	56	457
Investigative	2	2	0	0	0	0	1	4
Artistic	1	0	3	0	0	0	0	4
Social	7	0	0	5	1	2	4	15
Enterprising	7	0	1	2	6	1	2	17
Conventional	9	1	0	0	0	7	4	17
Other[a]	615	3	2	31	20	37		
Total	450	5	5	15	15	24		514

Note - Hits = .87; K_w = .423, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 6

Relation of Holland One-Letter Occupational Codes
for Black Men in 1965 and 1968

Code for 1965 Occupations	Code for 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	406	4	0	5	5	6	87	426
Investigative	1	1	0	0	0	1	2	3
Artistic	0	1	2	0	0	1	0	4
Social	6	1	0	5	1	1	5	14
Enterprising	9	1	0	2	3	1	3	16
Conventional	3	0	0	1	0	6	11	10
Other[a]	518	3	4	38	18	54		
Total	425	8	2	13	9	16		473

Note - Hits = .89; K_w = .441, $p < .001$.

[a]Occupation not reported or unemployed.

Table 7

Job Stability of Young Men

Comparison	% Same Occupation	Three-Letter Codes			Two-Letter Codes			One-Letter Codes			N
		Observed Hits	Expected Hits	K Unweighted	Observed Hits	Expected Hits	K Unweighted	Observed Hits	Expected Hits	K Weighted	
White Men											
1965-1966	62.0	-	-	-	-	-	-	86.0	53.4	.717*	1634
1965-1967	34.4	-	-	-	-	-	-	74.9	52.4	.490*	1459
1965-1968	27.1	-	-	-	-	-	-	70.5	51.7	.394*	1369
1966-1967	40.0	50.1	14.3	.418*	55.5	21.7	.432*	78.0	54.6	.520*	2895
1966-1968	26.2	37.8	13.0	.285*	45.5	20.9	.311*	70.0	53.1	.371*	2596
1967-1968	37.8	48.7	13.0	.410*	54.5	20.8	.426*	77.5	52.2	.551*	2706
1968-Asp.	-	-	-	-	-	-	-	50.4	30.4	.302*	2570
Black Men											
1965-1966	60.1	-	-	-	-	-	-	93.1	78.2	.690*	577
1965-1967	38.7	-	-	-	-	-	-	87.0	78.2	.423*	514
1965-1968	24.9	-	-	-	-	-	-	89.4	81.2	.441*	473
1966-1967	39.7	52.8	24.0	.379*	58.5	31.8	.391*	86.3	75.9	.433*	1084
1966-1968	21.3	36.0	21.2	.188*	44.2	29.9	.204*	82.3	75.4	.267*	954
1967-1968	32.0	45.2	21.2	.305*	52.5	30.2	.319*	84.8	75.6	.395*	1027
1968-Asp.	-	-	-	-	-	-	-	53.7	44.6	.190*	914

*p < .001.

TABLE 8

Relation of Holland One-Letter Occupational Codes
for White Women in 1967 and 1968

Code for 1967 Occupations	Code for 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	144	1	0	11	1	19	0	176
Investigative	2	9	0	0	0	1	0	12
Artistic	0	0	8	0	0	2	0	10
Social	8	2	0	243	0	14	0	267
Enterprising	0	0	0	5	47	10	1	62
Conventional	17	3	0	9	10	311	0	350
Other[a]	601	11	13	426	211	594		
Total	171	15	8	268	58	357		877

Note - Since women were first interviewed in 1968, the 1967 occupations were retrospective.

Note - Hits = .87; K_w = .831, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 9

Relation of Holland One-Letter Occupational Codes
for Black Women in 1967 and 1968

Code for 1967 Occupations	Code for 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	99	0	0	4	0	6	0	109
Investigative	0	0	0	0	0	1	0	1
Artistic	0	0	3	0	0	0	0	3
Social	4	0	0	41	1	5	0	51
Enterprising	0	0	0	0	5	3	0	8
Conventional	4	0	0	5	0	67	0	76
Other[a]	412	2	5	138	22	174		
Total	107	0	3	50	6	82		248

Note - Since women were first interviewed in 1968, the 1967 occupations were retrospective.

Note - Hits = .87; K_w = .799, $p < .001$.

[a]Occupation not reported or unemployed.

Table 10

Occupational Stability of Men with Consistent and Inconsistent Codes Over Three Time Intervals

Consistency of Code for Occupation at beginning of time interval	% Remaining in Same Category During Time Interval					
	1966-1967	Z	1967-1968	Z	1966-1968	Z
White Men						
Consistent	56.1	1.00	57.4	5.07*	47.3	4.71*
Inconsistent	54.8		50.3		40.7	
Black Men						
Consistent	54.4	-3.38*	52.9	.32	43.1	-.87
Inconsistent	61.5		52.2		45.1	

*$p < .001$.

TABLE 11

Relation of Holland One-Letter Codes of Occupational Aspirations at Age 30 for White Men in 1968

Code for 1968 Occupations	Code for Occupational Aspirations at Age 30						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	880	263	86	160	308	62	287	1759
Investigative	16	76	4	11	34	1	7	142
Artistic	5	7	28	3	9	1	3	53
Social	10	14	4	77	31	2	14	138
Enterprising	27	30	10	25	197	8	35	297
Conventional	24	30	13	21	57	36	27	181
Other [a]	44	48	16	20	24	2		
Total	962	420	145	297	636	110		2570

Note - Hits = .50; K_w = .302, $p < .001$.

[a] Occupation not reported or unemployed.

TABLE 12

Relation of Holland One-Letter Codes of Occupational Aspirations at Age 30 for Black Men in 1968

Code for 1968 Occupations	Code for Occupational Aspirations at Age 30						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	443	54	50	77	89	54	176	767
Investigative	1	7	0	1	0	0	2	9
Artistic	0	1	4	0	0	1	0	6
Social	5	5	6	23	5	4	3	48
Enterprising	3	3	1	5	5	4	6	21
Conventional	16	10	2	14	12	9	7	63
Other[a]	23	9	3	14	9	3		
Total	468	80	63	120	111	72		914

Note - Hits = .54; K_w = .190, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 13

Relation of Holland One-Letter Codes of Occupational Aspirations at Age 35 for White Women in 1968

Code for 1968 Occupations	Code for Occupational Aspirations at Age 35						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	173	18	25	188	30	139	199	573
Investigative	1	17	0	4	0	1	3	23
Artistic	1	0	10	2	2	1	5	16
Social	23	13	18	375	21	97	147	547
Enterprising	9	9	18	76	51	46	60	209
Conventional	12	14	30	185	25	508	177	774
Other [a]	27	27	35	240	34	183		
Total	219	71	101	830	129	792		2142

Note - Hits = .53; K_w = .339, $p < .001$.

[a] Occupation not reported or unemployed.

TABLE 14

Relation of Holland One-Letter Codes of Occupational Aspirations at Age 35 for Black Women in 1968

Code for 1968 Occupations	Code for Occupational Aspirations at Age 35						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	103	2	4	119	11	106	174	345
Investigative	0	0	0	0	0	0	2	0
Artistic	0	0	1	2	0	2	3	5
Social	12	5	5	86	5	31	44	144
Enterprising	5	2	0	9	3	6	3	25
Conventional	6	8	3	63	4	113	59	197
Other[a]	36	15	14	121	8	92		
Total	126	17	13	279	23	258		716

Note - Hits = .43; K_w = .202, $p < .001$.

[a]Occupation not reported or unemployed.

TABLE 15

Relationship Between Holland One-Letter Occupational Aspiration Code and Race for Men*

Holland Occupational Code for Aspirations	White Men	Black Men	Total
Realistic	962 (1054.85)	468 (375.15)	1430
Investigative	420 (368.83)	80 (131.17)	500
Artistic	145 (153.43)	63 (54.57)	208
Social	297 (307.60)	120 (109.40)	417
Enterprising	636 (551.03)	111 (195.97)	747
Conventional	110 (134.25)	72 (47.75)	182
Total	2570	914	3484

Note - Numbers in parentheses indicate expected frequencies.

*Chi Square = 128.01, df = 5, $p < .001$.

TABLE 16

Relationship Between Holland One-Letter Occupational Aspiration Code and Race for Women*

Holland Occupational Code for Aspirations	White Women	Black Women	Total
Realistic	219 (258.57)	126 (86.43)	345
Investigative	71 (65.95)	17 (22.05)	88
Artistic	101 (85.44)	13 (28.56)	114
Social	830 (831.11)	279 (277.83)	1109
Enterprising	129 (113.92)	23 (38.08)	152
Conventional	792 (786.95)	258 (263.05)	1050
Total	2142	716	2858

Note - Numbers in parentheses indicate expected frequencies.

*Chi Square = 45.12, df = 5, $p < .001$.

TABLE 17

Relation of Holland Occupational Codes for

White Fathers and Sons in 1968

Code for Fathers' 1968 Occupations	Code for Sons' 1968 Occupations																
	Three Letter Codes for Realistic Occupations										Inv.	Art.	Soc.	Ent.	Conv.	Other[a]	Total
	RIS	RIC	RIE	RSI	RSC	RSE	RCS	RCE	REI	RES							
RIS	5	4	8	0	0	4	0	1	2	0	0	0	5	2	0	2	31
RIC	9	25	30	1	0	24	0	4	7	1	7	2	13	18	8	2	
RIE	9	14	55	1	1	15	1	11	2	1	6	2	8	29	10	11	165
RSI	0	0	0	0	0	1	0	0	0	0	0	1	0	4	0	0	6
RSC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSE	3	4	22	0	0	14	2	7	2	0	3	1	2	4	5	4	69
RCS	0	0	0	0	0	2	1	0	0	0	0	0	1	1	0	0	5
RCE	2	3	7	0	0	6	0	4	2	0	1	0	2	8	4	4	39
REI	3	3	9	0	0	3	0	1	2	2	5	0	4	11	4	1	47
RES	2	2	1	0	0	1	0	0	0	1	0	0	0	2	2	0	11
Investigative	1	3	8	2	1	4	0	1	0	1	11	0	2	8	3	4	45
Artistic	0	0	1	0	0	0	0	0	1	0	1	2	0	0	0	2	5
Social	0	1	5	0	0	4	1	0	4	1	5	0	3	6	4	3	34
Enterprising	11	8	30	4	2	9	1	4	5	5	21	5	14	60	20	7	199
Conventional	2	3	6	0	0	2	0	3	0	0	2	0	1	3	1	0	23
Other[a]	156	8	348	10	31	634	16	48	23	53	76	43	92	176	147		
Total	47	3	182	8	4	89	6	36	27	12	62	13	55	156	61		828

Note - Hits = .512; K_w = .146, $p < .001$, when calculated as a 6 x 6 table.

[a]Occupation not reported or unemployed.

TABLE 18

Relation of Holland Occupational Codes for
Black Fathers and Sons in 1968

Code for Fathers' 1968 Occupations	Code for Sons' 1968 Occupations																
	Three Letter Codes for Realistic Occupations										Inv.	Art.	Soc.	Ent.	Conv.	Other[a]	Total
	RIS	RIC	RIE	RSI	RSC	RSE	RCS	RCE	REI	RES							
RIS	0	1	1	0	0	2	0	0	0	0	0	0	1	0	1	1	6
RIC	0	5	9	0	1	9	0	0	2	2	1	0	0	0	1	1	30
RIE	2	4	10	0	1	18	0	1	0	2	0	1	3	1	0	4	43
RSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSE	4	5	16	0	0	21	0	3	3	2	1	0	3	0	3	6	61
RCS	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	4
RCE	2	1	0	0	1	3	1	0	0	0	0	0	2	0	1	1	11
REI	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
RES	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Investigative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Social	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0	5
Enterprising	0	0	1	0	0	1	0	0	0	0	0	0	2	0	1	0	5
Conventional	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Other[a]	41	79	222	3	33	333	7	28	4	18	6	5	37	24	60		
Total	8	19	39	0	3	55	1	4	5	7	3	1	14	3	10		172

Note - Hits = .785; K_w = .168, not significant when calculated as a 6 x 6 table.

[a]Occupation not reported or unemployed.

TABLE 19

Relation of Holland Occupational Codes for
White Mothers and Sons in 1968

Code for Mothers' 1968 Occupations	Code for Sons' 1968 Occupations																
	Three Letter Codes for Realistic Occupations										Inv.	Art.	Soc.	Ent.	Conv.	Other[a]	Total
	RIS	RIC	RIE	RSI	RSC	RSE	RCS	RCE	REI	RES							
RIS	0	3	6	0	0	0	0	1	1	1	1	0	1	5	2	0	21
RIC	4	4	9	1	0	4	0	2	0	1	2	0	2	5	2	0	36
RIE	3	2	13	0	0	5	1	4	3	0	2	0	3	2	3	4	41
RSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSC	0	1	2	0	0	1	0	3	0	0	0	1	0	0	0	0	8
RSE	2	6	15	1	0	10	0	3	2	0	1	0	2	12	0	5	54
RCS	0	2	1	0	0	0	0	0	0	0	0	0	0	4	0	0	7
RCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REI	2	1	5	0	0	0	0	0	2	0	1	0	2	6	0	0	19
RES	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	4
Investigative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Artistic	0	1	2	0	0	1	0	0	1	0	2	1	2	1	0	0	11
Social	10	4	19	1	0	10	2	0	2	2	5	3	11	19	9	4	97
Enterprising	5	8	21	1	0	11	1	3	0	3	8	3	8	22	10	9	104
Conventional	5	7	16	5	0	12	0	4	4	1	11	3	6	28	10	4	112
Other[a]	172	170	455	9	35	669	18	64	35	57	105	45	110	226	172		
Total	31	39	111	9	0	54	4	20	15	8	33	11	37	106	36		514

Note - Hits = .478; K_w = .082, $p < .05$, when calculated as a 6 x 6 table.

[a]Occupation not reported or unemployed.

TABLE 20

Relation of Holland Occupational Codes for
Black Mothers and Sons in 1968

Code for Mothers' 1968 Occupations	Code for Sons' 1968 Occupations																
	Three Letter Codes for Realistic Occupations										Inv.	Art.	Soc.	Ent.	Conv.	Other[a]	Total
	RIS	RIC	RIE	RSI	RSC	RSE	RCS	RCE	REI	RES							
RIS	1	2	5	0	1	4	0	0	1	2	0	0	3	0	0	1	19
RIC	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
RIE	0	0	0	0	0	4	0	1	0	0	0	1	0	0	1	0	7
RSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSC	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
RSE	2	1	6	0	0	5	0	0	0	0	0	0	0	0	0	2	14
RCS	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	3
RCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REI	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
RES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investigative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social	2	4	5	1	0	4	0	0	0	1	1	1	4	2	1	1	26
Enterprising	1	1	0	0	0	0	0	0	0	0	1	0	1	1	3	0	8
Conventional	0	1	2	0	0	1	0	0	1	2	0	0	1	0	0	0	8
Other[a]	42	87	242	2	35	370	8	31	7	20	6	4	40	23	64		
Total	7	11	19	1	1	18	0	1	2	5	3	2	11	4	6		91

Note - Hits = .329; K_w = .129, not significant when calculated as a 6 x 6 table.

[a]Occupation not reported or unemployed.

TABLE 21

Relation of Holland One-Letter Occupational Codes for White Parents (With Similar Codes) and Sons in 1968

Code for Parents' 1968 Occupations When Similar	Code for Sons' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	99	4	0	6	24	6	2	139
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	1	0	0	0	0	1
Social	1	0	0	3	1	2	1	7
Enterprising	11	5	1	3	8	1	1	29
Conventional	2	0	0	0	1	0	0	3
Other[a]	1933	140	54	140	298	199		
Total	113	9	2	12	34	9		179

Note - Hits = .62; K_w = .208, $p < .05$.

[a]Occupation not reported or unemployed.

TABLE 22

Relation of Holland One-Letter Occupational Codes for White Fathers (When Parents' Codes Differ) and Sons in 1968

Code for Fathers' 1968 Occupations When Parents' Codes Differ	Code for Sons' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	73	5	3	9	23	10	3	123
Investigative	12	4	0	0	2	0	2	18
Artistic	0	0	0	1	0	0	1	1
Social	7	1	0	0	2	0	1	10
Enterprising	26	5	3	9	21	8	1	72
Conventional	7	1	0	1	0	0	0	9
Other[a]	1921	133	50	132	284	190		
Total	125	16	6	20	48	18		233

Note - Hits = .42; K_w = .130, $p < .05$.

[a]Occupation not reported or unemployed.

TABLE 23

Relation of Holland One-Letter Occupational Codes for
White Mothers (When Parents' Codes Differ) and Sons in 1968

Code for Mothers' 1968 Occupations When Parents' Codes Differ	Code for Sons' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	<u>18</u>	0	1	1	6	0	0	26
Investigative	0	<u>0</u>	0	0	0	0	0	0
Artistic	5	2	<u>0</u>	2	1	0	0	10
Social	38	2	1	<u>8</u>	11	6	2	66
Enterprising	30	3	1	4	<u>6</u>	5	2	49
Conventional	34	9	3	5	24	<u>7</u>	4	82
Other[a]	1921	133	50	132	284	190		
Total	125	16	6	20	48	18		233

Note - Hits = .17; K_w = -.006, not significant.

[a]Occupation not reported or unemployed.

TABLE 24

Relation of Holland One-Letter Occupational Codes for Black Parents (With Similar Codes) and Sons in 1968

Code for Parents' 1968 Occupations When Similar	Code for Sons' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	43	1	1	7	0	0	1	52
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0
Social	0	0	0	1	1	0	0	2
Enterprising	0	0	0	1	0	0	0	1
Conventional	0	0	0	0	0	0	0	0
Other[a]	900	10	5	42	26	70		
Total	43	1	1	9	1	0		55

Note - Hits = .80; K_w = .296, not significant.

[a]Occupation not reported or unemployed.

TABLE 25

Relation of Holland One-Letter Occupational Codes for
Black Fathers (When Parents' Codes Differ) and Sons in 1968

Code for Fathers' 1968 Occupations When Parents' Codes Differ	Code for Sons' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	9	1	1	1	2	1	0	15
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	1	0	1
Social	2	0	0	0	0	0	0	2
Enterprising	1	0	0	1	0	0	0	2
Conventional	2	0	0	0	0	0	0	2
Other[a]	929	10	5	49	25	68		
Total	14	1	1	2	2	2		22

Note - Hits = .41; K_w = -.118, not significant.

[a]Occupation not reported or unemployed.

TABLE 26

Relation of Holland One-Letter Occupational Codes for
Black Mothers (When Parents' Codes Differ) and Sons in 1968

Code for Mothers' 1968 Occupations When Parents' Codes Differ	Code for Sons' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	2	0	0	1	0	0	0	3
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0
Social	8	1	1	0	1	0	0	11
Enterprising	0	0	0	0	1	2	0	3
Conventional	4	0	0	1	0	0	0	5
Other[a]	929	10	5	49	25	68		
Total	14	1	1	2	2	2		22

Note - Hits = .14; K_w = -.019, not significant.

[a]Occupation not reported or unemployed.

TABLE 27

Relation of Holland One-Letter Occupational Codes for White Fathers and Daughters in 1968

Code for Fathers' 1968 Occupations	Code for Daughters' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	166	5	3	95	33	219	66	521
Investigative	8	1	1	6	1	21	7	38
Artistic	2	0	0	0	0	1	0	3
Social	6	0	1	13	1	18	2	39
Enterprising	35	2	3	52	24	71	9	187
Conventional	5	0	0	8	1	13	0	27
Other[a]	550	18	13	520	209	608		
Total	222	8	8	174	60	343		815

Note - Hits = .27; K_w = .099, $p < .01$.

[a]Occupation not reported or unemployed.

TABLE 28

Relation of Holland One-Letter Occupational Codes for
Black Fathers and Daughters in 1968

Code for Fathers' 1968 Occupations	Code for Daughters' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	79	0	1	29	5	44	20	158
Investigative	0	0	0	0	0	0	0	0
Artistic	1	0	0	0	0	0	0	1
Social	0	0	0	1	0	0	0	1
Enterprising	1	0	0	1	0	3	1	5
Conventional	1	0	0	0	1	1	0	3
Other[a]	437	2	7	157	22	208		
Total	82	0	1	31	6	48		168

Note - Hits = .48; K_w = .044, not significant.

[a]Occupation not reported or unemployed.

TABLE 29

Relation of Holland One-Letter Occupational Codes for
White Mothers and Daughters in 1968

Code for Mothers' 1968 Occupations	Code for Daughters' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	101	1	0	30	12	95	26	239
Investigative	1	0	0	3	0	0	0	4
Artistic	1	1	1	2	1	3	0	9
Social	28	2	1	33	6	33	11	103
Enterprising	18	1	2	18	10	31	4	80
Conventional	24	3	0	26	11	65	9	129
Other[a]	599	18	17	582	229	724		
Total	173	8	4	112	40	227		564

Note - Hits = .37; K_w = .176, $p < .01$.

[a]Occupation not reported or unemployed.

TABLE 30

Relation of Holland One-Letter Occupational Codes for
Black Mothers and Daughters in 1968

Code for Mothers' 1968 Occupations	Code for Daughters' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	73	0	0	30	2	30	10	135
Investigative	0	0	0	0	0	1	0	1
Artistic	0	0	0	0	0	0	0	0
Social	5	0	1	9	1	5	3	21
Enterprising	2	0	0	0	0	1	0	3
Conventional	0	0	0	1	0	9	1	10
Other[a]	439	2	7	148	25	210		
Total	80	0	1	40	3	46		170

Note - Hits = .54; K_w = .181, $p < .05$.

[a]Occupation not reported or unemployed.

TABLE 31

Relation of Holland One-Letter Occupational Codes for
White Parents (With Similar Codes) and Daughters in 1968

Code for Parents' 1968 Occupations When Similar	Code for Daughters' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	59	1	0	11	6	57	14	134
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0
Social	1	0	1	0	1	3	0	6
Enterprising	3	0	0	4	4	5	0	16
Conventional	0	0	0	0	0	3	0	3
Other [a]	709	25	20	679	258	883		
Total	63	1	1	15	11	68		159

Note - Hits = .42; K_w = .155, $p < .05$.

[a] Occupation not reported or unemployed.

TABLE 32

Relation of Holland One-Letter Occupational Codes for
Black Parents (With Similar Codes) and Daughters in 1968

Code for Parents' 1968 Occupations When Similar	Code for Daughters' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	25	0	0	11	1	13	5	50
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	0	0
Social	0	0	0	0	0	0	0	0
Enterprising	0	0	0	0	0	0	0	0
Conventional	0	0	0	0	0	1	0	1
Other[a]	493	2	8	177	27	242		
Total	25	0	0	11	1	14		51

Note - Hits = .51; K_w = .020, not significant.

[a]Occupation not reported or unemployed.

TABLE 33

Relation of Holland One-Letter Occupational Codes for White Fathers and Mothers of Sons in 1968

Code for Fathers' 1968 Occupations	Code for Mothers' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	141	0	3	45	37	41	295	267
Investigative	5	0	0	3	6	6	29	20
Artistic	0	0	1	0	2	0	4	3
Social	4	0	1	8	3	3	20	19
Enterprising	13	0	4	20	30	36	103	103
Conventional	4	0	2	0	3	3	11	12
Other [a]	55	0	0	25	32	27		
Total	167	0	11	76	81	89		424

Note - Hits = .43; K_w = .197, $p < .001$.

[a] Occupation not reported or unemployed.

TABLE 34

Relation of Holland One-Letter Occupational Codes for
Black Fathers and Mothers of Sons in 1968

Code for Fathers' 1968 Occupations	Code for Mothers' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	53	0	0	8	2	5	114	68
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	1	0	1	1
Social	2	0	0	2	0	0	1	4
Enterprising	1	0	0	1	1	0	2	3
Conventional	0	0	0	2	0	0	1	2
Other[a]	54	0	0	14	4	3		
Total	56	0	0	13	4	5		78

Note - Hits = .72; K_w = .247, not significant.

[a]Occupation not reported or unemployed.

TABLE 35

Relation of Holland One-Letter Occupational Codes for
White Fathers and Mothers of Daughters in 1968

Code for Fathers' 1968 Occupations	Code for Mothers' 1968 Occupations						Other[a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	<u>148</u>	0	3	48	34	49	305	282
Investigative	2	<u>0</u>	0	4	2	5	32	13
Artistic	0	0	<u>0</u>	1	1	0	1	2
Social	4	0	0	<u>6</u>	8	4	19	22
Enterprising	23	3	2	15	<u>16</u>	28	109	87
Conventional	5	0	0	5	2	<u>3</u>	12	15
Other[a]	83	1	4	35	21	49		
Total	182	3	5	79	63	89		421

Note - Hits = .41; K_w = .128, $p < .01$.

[a]Occupation not reported or unemployed.

TABLE 36

Relation of Holland One-Letter Occupational Codes for
Black Fathers and Mothers of Daughters in 1968

Code for Fathers' 1968 Occupations	Code for Mothers' 1968 Occupations						Other [a]	Total
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional		
Realistic	55	0	0	11	2	6	104	74
Investigative	0	0	0	0	0	0	0	0
Artistic	0	0	0	0	0	0	1	0
Social	0	0	0	0	0	0	1	0
Enterprising	2	0	0	0	0	0	4	2
Conventional	0	0	0	0	0	1	2	1
Other[a]	88	1	0	13	1	4		
Total	57	0	0	11	2	7		77

Note - Hits = .73; K_w = -.005, not significant.

[a]Occupation not reported or unemployed.

Appendix

Tables showing analyses for one-, two-, and three-letter Holland codes for whites and blacks for 1966 x 1968, 1967 x 1968, 1966 x 1967.

TABLE A-1

Relation of Holland Three-Letter Occupational Codes for White Men in 1966 and 1968

1966 \ 1968	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA	2			1																							
RIS		46	23	9		24		1	3	3		1	1	5						1	2	1					1
RIE	1	19	221	31	1	62	2	1	13	6	2	6	4	9		1				2	14	3			2	1	
RIC	1	7	30	65		28			7	3		3		5				1		1	5	-					1
RAI			2		1																						
RSE	1	55	132	44		358	9	2	7	18	5	12	7	22					3	1	-	8	-		2		2
RSC		5	15	1		15	1			1	1									1	1						
RSI								9	1										1								
REI			3	1		3			8					2						1		1					
RES		1	11	4	1	11	1		1	10			1	1								1		1	1	1	
REC		2	6			9				1	1																
RCI		1	5	4		2				1	1	7				1											
RCS			1			3			3				6	2													
RCE		1	4	6		13		1		2		1	1	25		1					1						
ISR															2												
ISA	1															1											
IES																	2		1								
ICE			1															2			1						
IRA						1													2		1						
IRS			2	1		1			2											-		1					
IRE			7	1		3	1				1	1				1			1		11	3			1		
IRC		1	7	3		1													1		-	-					
ASI		1				2				2											-		1				
AES																								3			
AIS		1	5			1				1												1			1		
AIE																										1	
AIR						1																			1		4
SEC			2																		1						
SEA		1	1	1		2						1															
SCE																											
SRE				1		7		1		1																	
SRC		4	4	3		9	1					2									1	1					
SIA																											
SIC																											
SAE			1																1		1						
SAI																					2						
ECI																											
ECS		1	1			1															1						
EAS																											
ESC		9	7	8		22	1	1	1	2	1	1		4			1				-	1	2		1		3
ESR		9	9	1		24	6	1		7	2	1		1				1					1				
ESI				1																							
CRS		1	3													1							1				
CRE		1		1		3				1												1			1		
CIE																											
CIR			1										1								1						
CSE			1			1																					
CSI		2	3																								
CSA		1						1		1																	
CES		2	5	3		9			2			1	1	2							5						
TOTAL	6	171	513	190	3	616	22	18	48	60	14	37	22	78	2	6	3	4	10	14	60	33	20	4	10	3	11

TABLE A-1 (cont'd)

Relation of Holland Three-Letter Occupational Codes for White Men in 1966 and 1968

1966 \ 1968	SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES	TOTAL
RIA													1											4
RIS													13			1		1			1	1	2	140
RIE				1	1				1		2		31		1	3			1	1	3		14	460
RIC			1		3	1			3		1		19										4	193
RAI													1								1			5
RSE	4	1		4	6	1	1	2	9		2		51	1	1	6	5	2	1		4		23	820
RSC	1				1				1				3		1								2	50
RSI																								11
REI				2					1		2		2										2	28
RES					1				1	1			4			1		1					2	57
REC											1		2										1	23
RCI	1								1			1	2										4	31
RCS													2				1							18
RCE	1			1					1				7		1	1			1				1	70
ISR																								2
ISA																								2
IES																								3
ICE																								4
IRA	2																						1	7
IRS																					1			15
IRE	1					1	1		3	1	1		3		1								2	45
IRC									1				1						1					25
ASI									1				1							1			1	23
AES																								3
AIS									1		1		2		1									15
AIE																								1
AIR																			1					7
SEC													1		1									5
SEA	1	1		1					1		1												1	12
SCE																								0
SRE				6	1			1			1		1						1					21
SRC					7				2				2				1				1		2	40
SIA						1							1											2
SIC																								0
SAE								1	4															8
SAI				1		1			22				1										1	28
ECI																								0
ECS	1										6		6										1	18
EAS												1												1
ESC	1								4	1	7		82				1		1		4		13	183
ESR													3	6					1		2	1	2	78
ESI																								1
CRS													3			4							1	14
CRE					2								2				2	1					4	19
CIE											1							2	1		1			5
CIR							1						1						4		1		1	11
CSE																								2
CSI									2		1		3								5		4	20
CSA									1			1												5
CES			1					2					10				2						16	61
TOTAL	13	2	2	16	22	5	3	6	60	3	27	3	261	7	7	16	12	7	13	2	24	2	105	2596

Table A-2

Relation of Holland Three-Letter Occupational Codes for White Men in 1967 and 1968

1967 \ 1968	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA	6																	1				1				
RIS		65	24	7		20	5			2		2		2					2	2	10	4	1		5		2
RIE		26	276	26	2	70	2	1	7	6	1	11	3	16							2				1		1
RIC		5	25	98		30			5	4				1													
RAI				2	1																						
RSE	1	53	109	33		413	10		8	15	5	10	5	22					1	1	7	4	2		1	1	
RSC		4	8			12	5			2	2											1					
RSI								10	1																		
REI		1	2	3		2			15											1	1			1			
RES		3	8	2		7				23	1						1				1						
REC		2	3	1		9				1	1														1		
RCI		1	8	3		5					2	9									1	1					1
RCS				1		2			1				9														
RCE		4	13	4		13		1		1			1	29								1					
ISR															4												
ISA																2					1						
IES		1															2		1		1						
ICE																		2			1						
IRA																			4		1	1					
IRS		1	1			1			1											9							
IRE			8			2	1				1								1		18	4					
IRC			6	1		4															3	9					1
ASI		2	1			4	1														1		15				
AES														1										3			
AIS			1																			2			1		
AIE			1																						1		
AIR						1			1																		4
SEC			2					1	1																		
SEA						2						1															
SCE		1																									
SRE			1	1		3				1																	
SRC		2	3	4		3	1			1						1						1					1
SIA																											
SIC																											
SAE																					1						
SAI						1																					1
ECI																											
ECS												1		2													
EAS																											
ESC		6	10	10		24		1	3	3		1		3									1		1	1	1
ESR		4	2	1		12	3			2	1	2											1				
ESI						1															1	1					
CRS		2	1	1		2						1															
CRE			1							1																	
CIE						1																			1		
CIR			2																		3						
CSE		1				1																					
CSI		1	3			2				1																	
CSA						1				1						1											
CES			9	3		13	2	2	2		1	2		2						1	3				1	1	
	7	185	528	201	3	661	30	16	45	64	15	40	18	79	4	4	3	3	9	14	58	30	20	4	12	3	12

TABLE A-2 (conc'd)

Relation of Holland Three-Letter Occupational Codes for White Men in 1967 and 1968

1967 \ 1968	SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES	TOTAL
RIA													7					1					2	139
RIS	1			2	2				1		2		23				1		1				9	515
RIE	1	1			3								10						1		2		2	194
RIC																								3
RAI	1	1		1	6	1		1	4		3		33		1	3	4	3	1	1	4		16	785
RSE					1				1				2										2	40
RSC																							1	12
RSI				1									8										1	37
REI											1		2			1	1				1		3	55
RES											1												1	20
REC	1												1		1	1							3	38
RCI									1				2		1									17
RCS	1												4		1	1							1	75
RCE																								4
ISR													1											4
ISA	1												1										1	9
IES													1											14
ICE	2					1				1			2										3	44
IRA													2											26
IRS					1																			25
IRE			1																					5
IRC									1															5
ASI													1											3
AES													2											8
AIS	1												1											6
AIE	1	1											1				1						1	8
AIR																								1
SEC				1	2			1	2				1								1			24
SEA		1			9			1	2				1				1						1	33
SCE					1	2																		3
SRE							1						2											3
SRC								2	1															4
SIA									39				2											43
SIC										1														1
SAE											8		7										1	19
SAI												2												2
ECI													127			1	1				3		16	226
ECS													2	10							1			41
EAS											1				1			1					1	7
ESC											1		1			7								16
ESI													1				2		1		1		2	8
ESR													1					1					2	7
CRS													1						1					14
CRE													2											4
CIE													1								9	1	3	28
CIR													1									1		5
CSE													2											4
CSI					1				1				6		1						9	1	3	28
CSA			1			1			1		3		8		1	1	2	2	2		4	1	43	111
CES																								
TOTAL	11	4	2	16	26	5	1	5	59	4	25	2	267	10	6	16	13	8	13	2	26	2	115	2706

TABLE A-3

Relation of Holland Three-Letter Occupational Codes for White Men in 1966 and 1967

1966 \ 1967	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA	2			1												1											
RIS		60	21	9		31	1		2	2	1	4		8			1			1	1						
RIE	1	12	285	24		78	2	1	3	7	2	7	1	8				1	1	2	7	3	2				
RIC	1	10	33	88		29			7	2	1	3	2	3				2			1	1					4
RAI			2		1																						
RSE		30	131	48		530	16		1	16	5	15	3	24					1	3	6	7	3			3	1
RSC		8	2	6		13	15			4										2		1					
RSI			1					9																			
REI			4	2		2			15					1													
RES		2	4	5		16	1		1	21			1	1							1						
REC		1	4			6					10			2													
RCI		2	5	2		9				1		10															1
RCS		1	3	1		2			2				7														
RCE		1	9	6		15		1	1	1		1		33								1		1			
ISR															2												
ISA	1															2											
IES																	3										
ICE												1						3									
IRA														1					5								
IRS			3			3			1											5					1		
IRE		1	4			4						1									26	2					
IRC			4	2		2							1								1	12					
ASI		1				1				2										1	1		14				
AES																								3			
AIS			3			1			1												1		1		4		
AIE																											
AIR			2			1																1					6
SEC						1			1			1	1														
SEA				1		2				1		1									1						
SCE																											
SRE			1	1		4		1														1					
SRC		1	2	1		12	2				1					1							1				
SIA			1																								
SIC																											
SAE			1																1								
SAI			1			1										1					2						
ECI																											
ECS		1	2			1																					
EAS																											
ESC		7	10	5	1	20	1		3	2				1					1		4	1	1		2		
ESR		7	4	2		25				3		1		1									1				
ESI				1		1																					
CRS		1				1										1							1				
CRE			1	2		3				1	1											1					
CIE			1																								
CIR			1	1						1			1								1						
CSE						3																					
CSI			1	1		1				1													1				
CSA										1																	
CES		2	6			10			1			1	1	1			1					1		1			
TOTAL	5	148	552	209	2	828	38	12	39	66	21	46	18	84	2	6	5	6	9	14	53	29	25	5	7	3	12

TABLE A-3 (cont'd)

Relation of Holland Three-Letter Occupational Codes for White Men in 1966 and 1967

1966 \ 1967	SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES	TOTAL
RIA																								4
RIS													4							2	2	1	2	153
RIE	1			1	2				3		1		24	1	1	3		1	1				9	495
RIC	2				1	1			1		2		9				1				1		7	212
RAI																							2	5
RSE		1		3	10				4		1		39	6	2	5	1		1		7	1	13	934
RSC	1				1				1				1										2	57
RSI																							1	11
REI				2									5	1	2								1	35
RES		1	1					1					6				1	1			2		3	69
REC											1		2								1			27
RCI					1				1				3										2	37
RCS																	1							17
RCE				1		1					1		2									1	1	77
ISR																								2
ISA																								3
IES																								3
ICE																								4
IRA																								6
IRS	1												1											15
IRE					1	1			1				4			1							2	48
IRC								1	1										1				1	26
ASI													3				1						2	26
AES																								3
AIS													1		1						1		1	15
AIE																							1	1
AIR																							1	11
SEC	3												1			1								9
SEA		3		1					1				2										1	14
SCE																								0
SRE				11	1																			20
SRC		2			18								2										2	45
SIA						2																		3
SIC																								0
SAE								2	4															8
SAI				2					22				2											31
ECI																								0
ECS		1									7		4								1		1	18
EAS												1												1
ESC		1							4		6		108		1			2	3	2	1		8	195
ESR				1									6	36							1		2	90
ESI																								2
CRS													2			6							2	14
CRE													2				4	1			1		4	21
CIE															1			4					2	8
CIR							1						2						7					15
CSE																				1				4
CSI				1					2				1								9	1	4	23
CSA	1		1									1										2	1	7
CES	1							1					10			1					1		32	71
TOTAL	10	9	2	23	35	5	1	5	45	0	19	2	246	44	8	17	9	9	13	5	28	6	110	2895

TABLE A-4

Relation of Holland Three-Letter Occupational Codes for Black Men in 1966 and 1968

1966 \ 1968	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA			1																								
RIS		11	7			8								1													
RIE	1	7	74	20	1	44	3		3	3	2	2	1	9				1		1							1
RIC		2	7	13		15			1	2				1									1				
RAI																											
RSE		14	91	37		203	12		2	7	3	11	1	12													
RSC		3	4	1		15	2			1																1	
RSI				1				2																			
REI									1																		
RES		1	1			2	1			2	2																
REC		2	7	1		8	1			1	1																
RCI			6	1	1	5	1					2		1													
RCS			1	3		2						1	3														
RCE			6	4		11	1		1	1				7													
ISR																											
ISA																											
IES																											
ICE																											
IRA																											
IRS						1										1					1						
IRE																							2				
IRC																											
ASI																											
AES						1																					
AIS																					1						
AIE			1																								
AIR																											
SEC				1																	1						
SEA																					1						
SCE																											
SRE		1	1																								
SRC			4	2		5	5		1	1																	
SIA			1																								
SIC																											
SAE																											1
SAI																											
ECI																											
ECS																											
EAS																											
ESC			4	1		2	1														1						
ESR		1	3			1	3																				
ESI																											
CRS		1	2			1																					
CRE			2	1																							
CIE							1	1																			
CIR																					1						
CSE																											
CSI						1																					
CSA																											
CES		1	1	3		3				3																	
TOTAL	1	44	224	89	2	329	31	3	9	21	8	16	7	31	0	1	0	1	0	1	6	0	3	0	0	1	2

TABLE A-4 (cont'd)

Relation of Holland Three-Letter Occupational Codes for Black Men in 1966 and 1968

1966 \ 1968	SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES
RIA																							1
RIS															1	1							1
RIE	1	1		1	2	1							2			1	2						6
RIC		1							1				2										1
RAI																							
RSE	1	1		1	7	1			1				3			10	2		1		1		6
RSC					3								2			1					1		1
RSI																							
REI																							
RES													1				1				1		
REC					1								1			1	1						
RCI		1																					
RCS													1										
RCE					1																		
ISR																							
ISA																							
IES																							
ICE																							
IRA																							
IRS																							1
IRE																							
IRC																							
ASI																							1
AES																							
AIS																							
AIE																							
AIR		1																					
SEC									1														
SEA																							
SCE																							
SRE																1							
SRC	1	1			1												1						
SIA																							
SIC																							
SAE									1														
SAI									2														
ECI																							
ECS																							
EAS																							
ESC		1							1				6										
ESR					1									2		1							
ESI																							
CRS				1	1												1						1
CRE				1													1						2
CIE																							
CIR	1																						
CSE																				1			
CSI									1												1		1
CSA																							
CES						1		1									1	1			1		3
TOTAL	4	7	0	4	17	3	0	1	8	0	0	0	18	2	1	16	10	1	1	1	5	0	25

TABLE A-5

Relation of Holland Three-Letter Occupational Codes for Black Men in 1967 and 1968

1967 \ 1968	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA																											
RIS		17	7			7			1					1													
RIE		10	96	17	1	51	5		1	1	2	3	1	3													
RIC		3	14	27	1	10			1	2	2	1	1														
RAI			1																								
RSE		11	82	38		239	14		2	6	2	7		11													
RSC			7			7	9		1	1				1													
RSI			1					3																			
REI									2																		
RES			2			7				7				1							1						
REC			3	1		6					1	1															
RCI			6	1			1					5															
RCS						3					1		6														
RCE		1	8	1		11	1		1			1		14													
ISR																											
ISA																											
IES																											
ICE																		1									
IRA																											
IRS																											
IRE																1					1						
IRC																											
ASI																							3				
AES																					1						
AIS																					1						
AIE																											
AIR																											
SEC						1																					
SEA						1																					1
SCE																											
SRE		1																									
SRC			5	3		1	1			2																	
SIA																											1
SIC																											
SAE																											
SAI	1					1																					
ECI																											
ECS			2			1																					
EAS																											
ESC		1				4	1			1																	
ESR		1	3	1		1	1																				
ESI																											
CRS		1	1			3																					
CRE			1	1																							
CIE				1		1																					
CIR			1																								
CSE			1																								
CSI																											
CSA																											
CES			3	2		3				3																	
TOTAL	1	46	244	93	2	358	33	3	9	23	8	18	8	31	0	1	0	1	0	0	4	0	3	0	0	0	2

TABLE A-5 (cont'd)

Relation of Holland Three-Letter Occupational Codes for Black Men in 1967 and 1968

1967	1968 SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES
RIA																							1
RIS					1										1	1	1						1
RIE		1		2	2	1			1				1			3					2		4
RIC					1								4				1						1
RAI																			1				
RSE	2			1	8	1							4			8	4						7
RSC					1				1				1			1							
RSI																							
REI																							
RES													1								1		2
REC													1				1						1
RCI		1											1										
RCS													1				1						
RCE																							
ISR																							
ISA																							
IES																							
ICE																							
IRA																							
IRS																							1
IRE																				1			
IRC																							
ASI																							
AES																							
AIS																							
AIE																							
AIR		1																					
SEC																							
SEA		2																					
SCE																							
SRE				1																			
SRC					3												1						2
SIA		1																					
SIC																							
SAE	1	1							2														
SAI				1					5														1
ECI																							
ECS																							
EAS																							
ESC													8										
ESR													2				1						
ESI																							
CRS					1											3							
CRE																							1
CIE																							
CIR																							
CSE					1																		
CSI	1																				2		
CSA																							
CES						1		1	1							1	1	1		1			7
TOTAL	4	7	0	5	18	3	0	1	10	0	0	0	22	2	1	17	11	1	1	1	6	0	29

TABLE A-6

Relation of Holland Three-Letter Occupational Codes for Black Men in 1966 and 1967

1966 \ 1967	RIA	RIS	RIE	RIC	RAI	RSE	RSC	RSI	REI	RES	REC	RCI	RCS	RCE	ISR	ISA	IES	ICE	IRA	IRS	IRE	IRC	ASI	AES	AIS	AIE	AIR
RIA			1									1		2													
RIS		20	3	1		7												1									
RIE		2	114	11		40	1		2	3	2	1	2	11									1				
RIC		1	11	17		10	2			2	1																
RAI																						1			1		
RSE	1	12	56	22	1	321	10	2	1	12	5	4	3	16													
RSC		2	5	4		14	11			1	2																
RSI						1		2																			
REI		1																									
RES			1	5		4				4																	
REC		1	3	1		11				1	6		1														
RCI			2	2		6	1					5	1														
RCS			3	1		2						1	5														
RCE			5	3		8	1							14													
ISR																											
ISA																											
IES																											
ICE																											
IRA																			1								
IRS						1														2							
IRE						1																	2		1		
IRC																										1	
ASI						1																					
AES						1																		1			
AIS																											
AIE			1																								
AIR																											
SEC						1																					
SEA										1																	
SCE														1													
SRE						1	1																				
SRC		1	3			8	1																				
SIA				1																							
SIC																											
SAE																											
SAI																											
ECI																											
ECS																											
EAS																								1			
ESC			1			5	2																				
ESR		1	1	1		3	1					1															
ESI																											
CRS			3			3																					
CRE			1	1		2																					
CIE							1	1																			
CIR												1										1					
CSE																											
CSI						1																					
CSA																											
CES		1	3	5		3				1																	
TOTAL	1	42	217	75	1	455	32	5	3	25	16	14	12	44	0	0	0	1	0	1	3	1	3	1	1	1	1

TABLE A-6 (cont'd)

Relation of Holland Three-Letter Occupational Codes for Black Men in 1966 and 1967

1966 \ 1967	SEC	SEA	SCE	SRE	SRC	SIA	SIC	SAE	SAI	ECI	ECS	EAS	ESC	ESR	ESI	CRS	CRE	CIE	CIR	CSE	CSI	CSA	CES
RIA																							1
RIS																							1
RIE		1			1			2	3		2		3			1		1					5
RIC		1																					4
RAI																							
RSE					6	1			2				4	2		3	2	1	1		1		5
RSC											1												
RSI																							
REI				1																			
RES	1										1												
REC													1										
RCI													1										
RCS																							
RCE					2																		
ISR																							
ISA																							
IES																							
ICE																							
IRA																							
IRS																							
IRE																							
IRC																							
ASI																							
AES																							
AIS																							
AIE																							
AIR																							
SEC																							1
SEA																							1
SCE																							
SRE				1												1							
SRC		1			8												1						
SIA													1										
SIC																							
SAE						1			1														
SAI								1	1														
ECI																							
ECS																							
EAS																							
ESC		1		1	1				1				7						1				1
ESR														9									
ESI																							
CRS																4							
CRE					1												3						1
CIE																							
CIR																				1			
CSE																			1				
CSI							1													1			1
CSA																							
CES																			1				11
TOTAL	1	4	0	3	19	2	0	4	8	0	4	0	17	11	0	9	6	2	2	2	3	0	32